

Rear Shock Absorber Mounting Bolt

Remove the front (Chapter Ten) and rear (Chapter Twelve) shock absorbers and lubricate the mounting bolts with grease.

PERIODIC MAINTENANCE

Periodic maintenance intervals are listed in **Table 1**.

Air Box Drain Tube

Inspect the drain tube (**Figure 24**) mounted on the bottom of the air box. If the hose is filled with water, dirt and other debris, clean and re-oil the air filter. Clean the air box and drain the drain tube at the same time.

Air Filter

A clogged air filter will decrease the efficiency and life of the engine. Never run the engine without an air filter properly installed. Dust that enters the engine can cause severe engine wear and clog carburetor jets and passages.

Refer to **Figure 25**.

Removal and installation

1. Remove the seat (Chapter Fifteen).
2. Release the air box cover retaining clips and remove the cover (**Figure 26**).
3. Loosen the air filter hose clamp (A, **Figure 27**) and remove the air filter assembly (B).

4. Disassemble, clean and oil the air filter as described in the following procedure.
5. Check the air box and carburetor boot for dirt or other contamination.
6. Wipe the inside of the air box with a clean rag. If more extensive cleaning is required, remove and clean the air box (Chapter Eight).
7. Cover the air box opening with a clean shop rag.
8. Inspect all fittings, hoses and connections from the air box to the carburetor.
9. Inspect the crankcase breather foam filter (**Figure 28**). If it is dirty, clean the filter using soapy water and let it dry. When installing the filter, do not push it too far into the opening.
10. Assemble the air filter.
11. Install the air filter into the air box. Tighten the air filter hose clamp (A, **Figure 27**) securely.
12. Install the air box cover (**Figure 26**) and secure with the retaining clips.
13. Install the seat (Chapter Fifteen).

Air filter cleaning and re-oiling

Service the air filter element in a well-ventilated area, away from all sparks and flames.

1. Remove the hose clamp (A, **Figure 29**), then remove the element core (B) from the filter element (C).

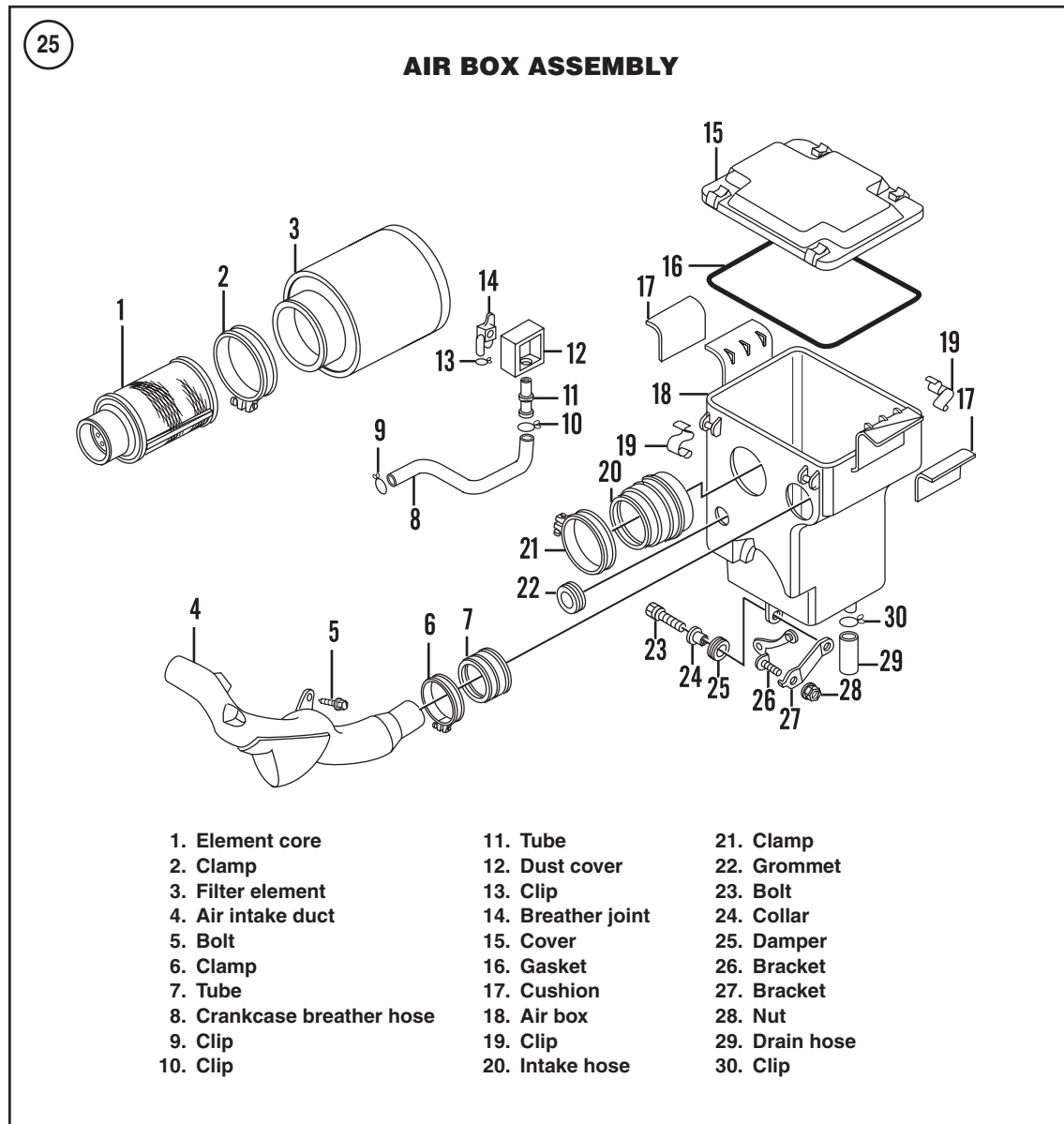
WARNING

Do not clean the filter element with gasoline.

2. Clean the filter element with a filter solvent to remove oil and dirt.
3. Inspect the filter element. Replace it if it is torn or broken in any area.
4. Fill a clean pan with liquid detergent and warm water.
5. Submerge the filter element in the cleaning solution and gently work the cleaner into the filter pores. Soak and gently squeeze the filter element to clean it.

CAUTION

Do not wring or twist the filter element when cleaning it. This could damage the filter pores or tear the filter loose at a seam. This would allow unfiltered air to enter the engine and cause severe and rapid wear.



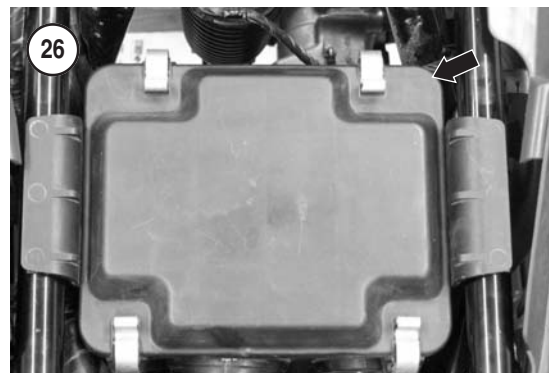
6. Rinse the filter element under warm water while soaking and gently squeezing it.

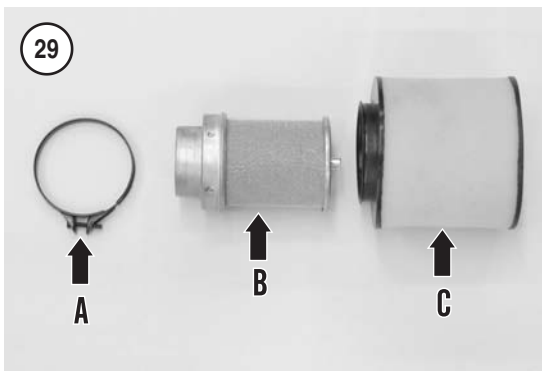
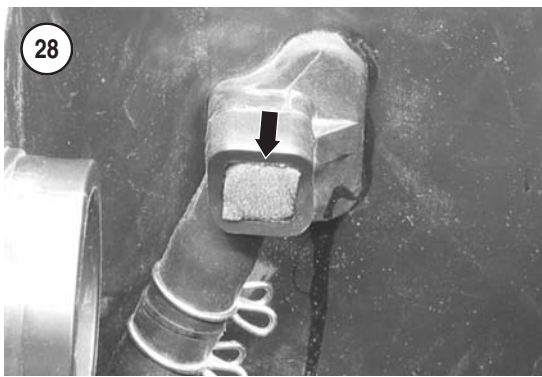
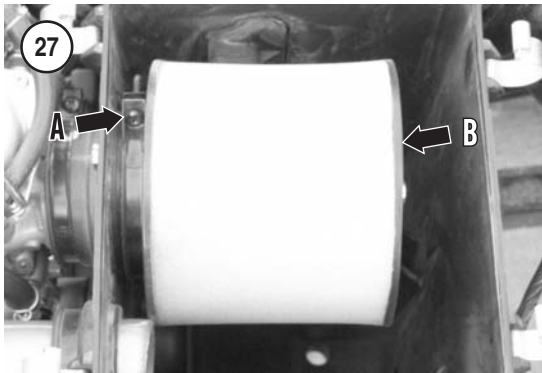
7. Repeat Step 6 and Step 7 until there is no dirt being rinsed from the filter element.

8. After cleaning the element, inspect it again carefully. If it is torn or broken in any area, replace it. Do not run the engine with a damaged filter element.

9. Set the filter element aside and allow it to dry thoroughly.

10. Clean and dry the element core. Check the element core for damage and replace it if necessary.



**CAUTION**

Make sure the filter element is completely dry before oiling it.

11. Properly oiling an air filter element is a messy but important job. Wear a pair of disposable rubber gloves when performing this procedure. Oil the filter as follows:

- a. Purchase a box of gallon size storage bags. The bags can be used when cleaning the filter as well as for storing engine and carburetor parts during disassembly service procedures.
- b. Place the filter element into a storage bag.
- c. Pour foam filter oil onto the filter to soak it.
- d. Gently squeeze and release the filter to soak filter oil into the filter's pores. Repeat until all of the filter's pores are saturated with oil.
- e. Remove the filter element from the bag and check the pores for uneven oiling. This is indicated by light or dark areas on the filter element. If necessary, soak the filter element and squeeze it again.
- f. When the filter oiling is even, squeeze the filter element a final time.
- g. Pour the leftover filter oil from the bag back into the bottle for reuse.
- h. Dispose of the plastic bag.

12. Install the filter element onto the element core. Install the clamp (A, **Figure 29**).

13. Install the filter assembly as described in this section.

Fuel Line Inspection**WARNING**

Some fuel may spill during the procedure in this section. Because gasoline is extremely flammable, perform the following procedure away from all open flames (including appliance pilot lights) and sparks. Do not smoke or allow someone who is smoking in the work area. Always work in a well-ventilated area. Wipe up any spills immediately.

Inspect the fuel line (**Figure 30**) for leaks, cracks, hardness, age deterioration or other damage. Make sure each end of the hose is secured with a hose

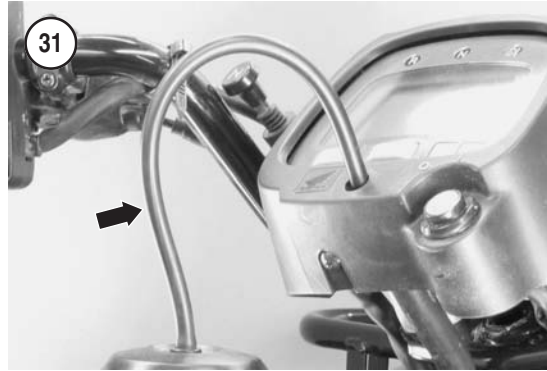
clamp. Check the carburetor overflow and vent hose ends for contamination.

WARNING

A damaged or deteriorated fuel line presents a very dangerous fire hazard to both the rider and machine.

Fuel Tank Vent Hose

Check the fuel tank vent hose (**Figure 31**) for proper routing and make sure it is not kinked. Check the end of the hose for contamination.



Front Brake Lining Check

1. Remove the rubber inspection cap (**Figure 32**) from the front wheel and brake drum.
2. Move the ATV in either direction until the inspection hole aligns with one of the brake linings.

NOTE

Figure 33 shows a brake shoe with the brake drum removed for clarity. It is not necessary to remove the brake drum for this procedure.



3. Measure the lining thickness (**Figure 33**). The standard lining thickness is 4.0 mm (0.16 in.). The service limit is 1.0 mm (0.04 in.). If the lining thickness appears thin or excessively worn, remove the brake drum (Chapter Thirteen) to inspect and measure the lining thickness.
4. Repeat Step 3 for the other three front brake linings.
5. Install the rubber inspection cap (**Figure 32**).

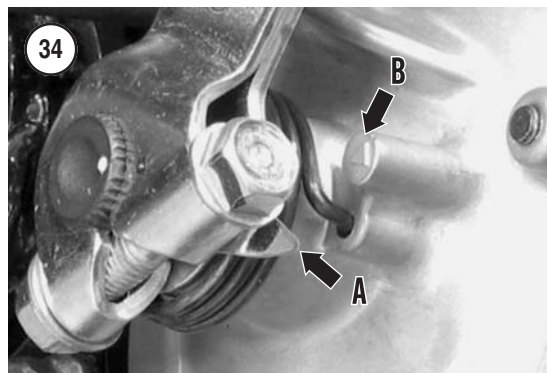


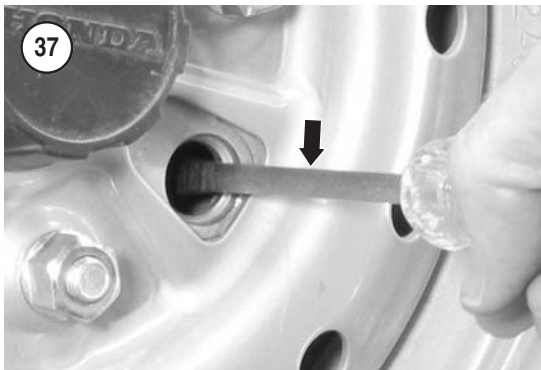
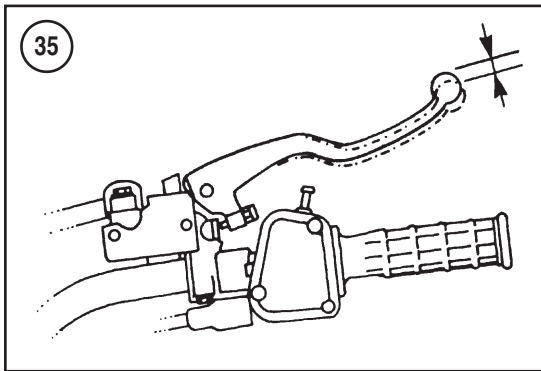
Rear Brake Lining Check

Apply the rear brake fully. If the indicator plate (A, **Figure 34**) aligns with the fixed index mark on the brake panel (B), replace both rear brake shoes (Chapter Thirteen).

Front Brake Adjustment

1. Perform the *Front Brake Lining Check* in this section. If the brake lining thickness is within specifications, continue with Step 2.
2. Apply the front brake lever and measure the amount of free play travel until the front brakes start





to engage (**Figure 35**). The correct front brake lever free play measurement is 25-30 mm (1-1 1/4 in.). If the brake linings contact the brake drum too early or too late, continue with Step 3 to adjust the front brakes.

NOTE

Contamination inside the brake drum can cause the brakes to engage too soon. If inspection reveals dirt or other debris inside the drum, remove the brake drum and inspect the drum

surface and brake linings as described in Chapter Thirteen.

3. Support the ATV with the front wheels off the ground.
4. Remove the rubber plug (**Figure 32**) from one of the brake drums.
5. Turn the wheel to align the hole with one of the brake adjusters (**Figure 36**).

NOTE

Each wheel is equipped with two brake adjusters. It does not matter which adjuster is adjusted first.

6. Insert a slotted screwdriver into the hole (**Figure 37**) and rotate the adjuster in the direction of the arrow cast on the wheel cylinder (**Figure 36**) until the drum is locked and can no longer move. From this position, rotate the adjuster in the opposite direction three clicks. Apply the front brake lever several times.
7. Rotate the wheel and make sure the brake is not dragging on the drum.

NOTE

A build-up of rust and dirt in the brake drum can cause the brake linings to drag.

8. Turn the wheel to align the hole with the other brake adjuster and repeat Steps 6 and 7.
9. Repeat Steps 4-8 for the opposite front wheel.
10. After adjusting the brakes on both front wheels, recheck the brake lever free play (Step 2). It should be within specification.

NOTE

If the free play is excessive after adjusting the brakes, there is probably air in the brake line. Bleed the front brakes (Chapter Thirteen), then recheck the brake lever free play.

11. Install the rubber plug (**Figure 32**) into each brake drum.
12. Install the front wheels (Chapter Ten).
13. Lower the ATV so all four wheels are on the ground.

WARNING

Do not ride the ATV until the brakes are working properly.

Rear Brake Adjustment

1. Before adjusting the rear brake, check the brake pedal, brake cables and adjusters for loose or damaged connections. Replace or repair any damage before continuing with Step 2.
2. Lubricate the rear brake cables as described in this chapter.
3. Release the parking brake if it is set.
4. Perform the *Rear Brake Lining Check* in this section. If the brake lining thickness is within specifications, continue with Step 5.
5. Apply the rear brake lever and measure the amount of free play travel until the rear brake starts to engage (**Figure 38**). The correct rear brake lever free play is 15-20 mm (5/8-3/4 in.). Note the following:
 - a. If the brake linings contact the brake drum too early or too late, perform Step 6.
 - b. If the free play travel is within specification, go to Step 7.

NOTE

Contamination inside the brake drum can cause the brakes to apply too soon. If inspection reveals dirt or other debris inside the drum, remove the brake drum and inspect the drum surface and brake linings as described in Chapter Thirteen.

6. Turn the lower adjusting nut (A, **Figure 39**) in or out to achieve the correct amount of free play.

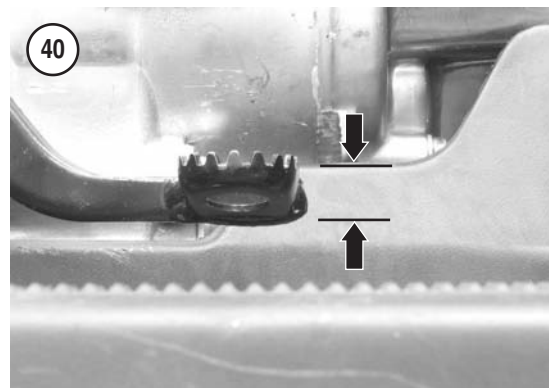
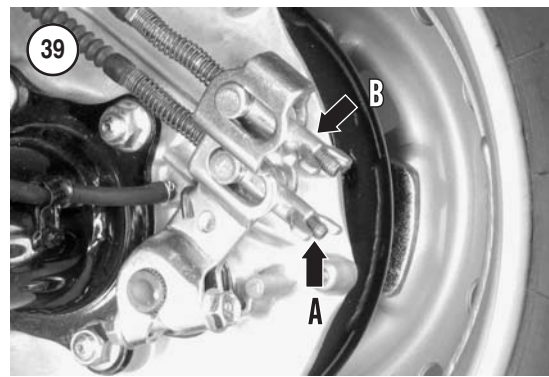
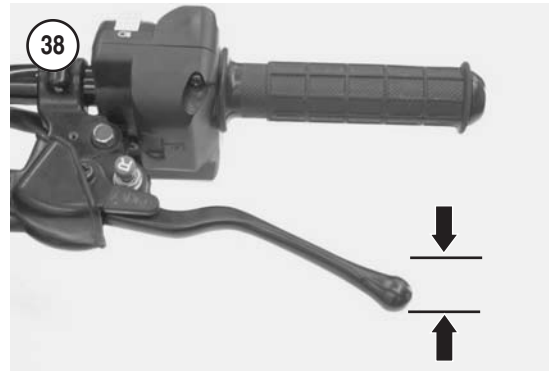
NOTE

Make sure the cutout relief in the adjusting nut is properly seated on the collar.

7. At the brake pedal, apply the rear brake and check the pedal free play. With the pedal in the rest position, apply the brake pedal and check the distance it travels until the rear brake is applied (**Figure 40**). The correct brake pedal free play is 15-20 mm (5/8-3/4 in.). If it is out of adjustment, turn the upper adjusting nut (B, **Figure 39**) in or out to achieve the correct amount of free play.

NOTE

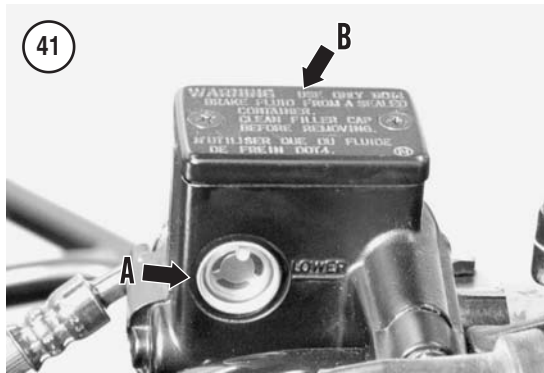
Make sure the cutout relief in the adjusting nut is properly seated on the collar.



8. Support the ATV with the rear wheels off the ground.
9. Rotate the rear wheels and make sure the brake is not dragging. If the brake is dragging, repeat this procedure until there is no drag.

NOTE

Brake drag can also be caused by dirt and other contamination in the brake drum and on the brake linings. If necessary, remove the brake drum



(Chapter Thirteen) and check the brake drum and linings.

10. Lower the ATV so all four wheels are on the ground.

Brake Fluid Level Check

1. Turn the handlebar so the master cylinder is level.
2. Check the brake fluid level through the master cylinder inspection window (A, **Figure 41**). The level should be above the LOWER level line. If necessary, add brake fluid as follows:

NOTE

If the brake fluid is low, check the front brake lining wear as described in this chapter.

3. Clean any dirt from the cover and master cylinder.
4. Remove the two cover screws, cover and diaphragm (B, **Figure 41**).

5. Add new DOT 4 brake fluid to raise the brake fluid level to the casting mark (**Figure 42**) in the reservoir.

WARNING

Use brake fluid clearly marked DOT 4. Others may cause brake failure. Do not intermix different brands or types of brake fluid as they may not be compatible. Do not intermix a silicone based (DOT 5) brake fluid as it can cause brake component damage leading to brake system failure.

CAUTION

Be careful when handling brake fluid. Do not spill it on painted or plastic surfaces as it will damage the surface. Immediately wash the area with soap and water and thoroughly rinse it off.

6. Reinstall the diaphragm and cover (B, **Figure 41**). Install the screws and tighten them securely.

Brake Fluid Change

Every time the master cylinder top cover is removed, a small amount of dirt and moisture can enter the brake fluid. The same thing happens if a leak occurs or if any part of the hydraulic system is loosened or disconnected. Dirt can clog the system and cause wear and brake failure. Water in the brake fluid will cause corrosion inside the hydraulic system, impairing the hydraulic action and reducing the brake's stopping ability.

To maintain peak performance, change the brake fluid every 2 years or whenever rebuilding or replacing the master cylinder or a wheel cylinder. To change brake fluid, follow the brake bleeding procedure in Chapter Thirteen.

WARNING

Use brake fluid clearly marked DOT 4. Others may cause brake failure. Do not intermix different brands or types of brake fluid as they may not be compatible. Do not intermix a silicone based (DOT 5) brake fluid as it can cause brake component damage leading to brake system failure.

Brake Hoses

Inspect the brake hoses for cracks, cuts, bulges, deterioration and leaks. Check the metal brake lines for cracks and leaks. Refer to Chapter Thirteen for service procedures.

Clutch Adjustment

Adjust the clutch at the interval specified in **Table 1**.

This adjustment pertains only to the change (manual) clutch. The centrifugal clutch requires no adjustment. Since there is no clutch cable, the mechanism is the only component that requires adjustment. This adjustment takes up slack caused by clutch component wear.

1. Loosen the clutch adjusting screw locknut (A, **Figure 43**).
2. Turn the adjusting screw (B, **Figure 43**) counter-clockwise until resistance is felt, then stop.
3. From this point, turn the adjusting screw (B, **Figure 43**) clockwise 1/4 of a turn, then stop.

NOTE

Make sure the adjusting screw does not move when tightening the locknut in Step 4.

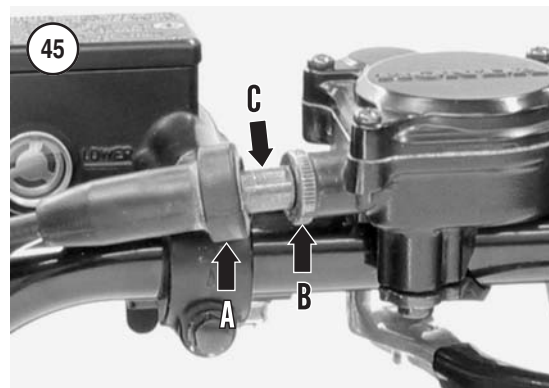
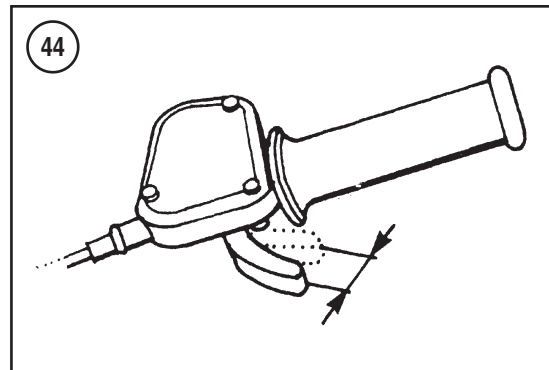
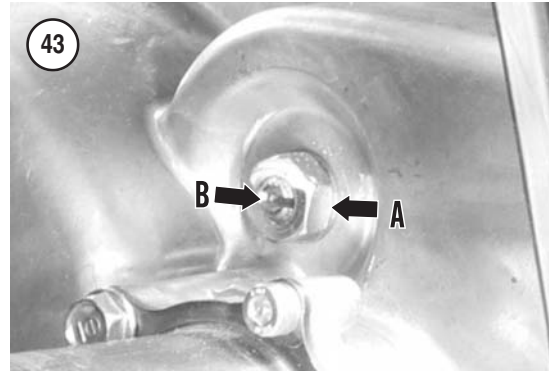
4. Hold the adjusting screw and tighten the locknut (A, **Figure 43**) to 22 N•m (13 ft.-lb.).
5. Test ride the ATV to make sure the clutch is operating correctly. Readjust if necessary.

NOTE

If the clutch adjustment is difficult, the friction plates may be worn. Remove the clutch cover and inspect the friction plates as described in Chapter Six.

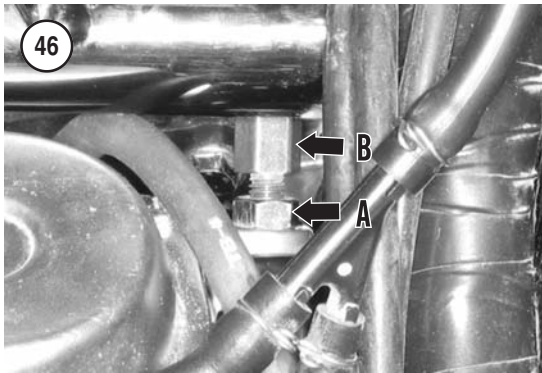
Throttle Cable Adjustment

1. Before adjusting the throttle cable, operate the throttle lever and make sure it opens and closes properly with the handlebar turned in different positions. If it does not, check the throttle cable for damage or improper routing. Check the throttle lever for damage. Replace or repair any damage before continuing with Step 2.
2. Lubricate the throttle cable as described in this chapter.



3. Operate the throttle lever and measure the amount of free play travel (**Figure 44**) until the cable play is taken up and the carburetor lever starts to move. The correct throttle lever free play measurement is 3-8 mm (1/8-5/16 in.). If the free play is out of specification, continue with Step 4.

4. At the upper throttle cable adjuster on the handlebar, slide the rubber boot (A, **Figure 45**) off the adjuster and loosen the cable adjuster locknut (B). Turn the adjuster (C, **Figure 45**) in or out until the free play is correct. Hold the adjuster and tighten



the locknut securely. Recheck the throttle lever free play while noting the following:

- a. If the proper amount of free play cannot be achieved at the throttle end of the cable, continue with Step 5.
 - b. If the free play measurement is correct, slide the rubber boot (A, **Figure 45**) over the adjuster, then go to Step 11.
5. Loosen the upper cable adjuster locknut and loosen the adjuster (C, **Figure 45**) to obtain as much throttle cable free play as possible.
 6. Remove the seat (Chapter Fifteen).
 7. Slide the rubber boot off the lower cable adjuster and loosen the cable adjuster locknut (A, **Figure 46**). Turn the adjuster (B, **Figure 46**) to remove some of the cable free play, then tighten the locknut (A).
 8. Repeat Step 4 to adjust the throttle lever free play. If necessary, readjust the lower (B, **Figure 46**) and upper (C, **Figure 45**) cable adjusters until the free play is correct. Then tighten both cable adjuster locknuts securely. Slide the rubber boots over the cable adjusters.

WARNING

Do not turn either adjuster so far out that the adjuster cannot be tightened securely with the locknut. This could allow the throttle to stick open and cause loss of vehicle control.

9. If the throttle cable cannot be adjusted properly, the cable has stretched excessively and must be replaced as described in Chapter Eight.

10. Make sure the throttle lever moves freely from its fully closed to fully open positions and is within the specification.

11. Apply the parking brake.

12. Start the engine and allow it to idle in neutral. Turn the handlebar from side to side. If the engine speed increases as the handlebar is being turned, the throttle cable is routed incorrectly or there is not enough cable free play. Readjust the throttle cable, or if necessary, replace the throttle cable as described in Chapter Eight.

NOTE

A damaged throttle cable will prevent the engine from idling properly.

Choke Cable Inspection

There is no choke cable adjustment. Inspect the choke cable as described in this procedure.

1. Operate the choke knob (**Figure 47**). Make sure the lever moves smoothly and the cable is working properly.
2. If necessary, lubricate the choke cable as described in this chapter.
3. Visually inspect the choke cable for cracks or other damage. If necessary, replace the choke cable as described in Chapter Eight.

Reverse Lock System Check and Adjustment

1. Check the reverse selector cable for loose or damaged cable ends. Check the reverse lever for damage. Repair or replace any damaged parts.
2. If necessary, lubricate the reverse selector cable as described in this chapter.
3. Push the reverse selector knob (**Figure 48**) in while squeezing the rear brake lever, then measure the reverse lever free play (**Figure 48**). The correct amount of free play is 2-4 mm (1/16-5/32 in.).

4. To adjust, loosen the reverse selector cable locknut (A, **Figure 49**) and turn the adjuster (B) in or out to obtain the correct amount of free play. Tighten the locknut and recheck the free play.
5. Start the engine and then shift the transmission into reverse following normal operating procedures. Make sure the transmission shifts into and out of reverse correctly.

Spark Arrestor

Clean the spark arrestor at the interval indicated in **Table 1** or sooner if a considerable amount of slow riding is done.

WARNING

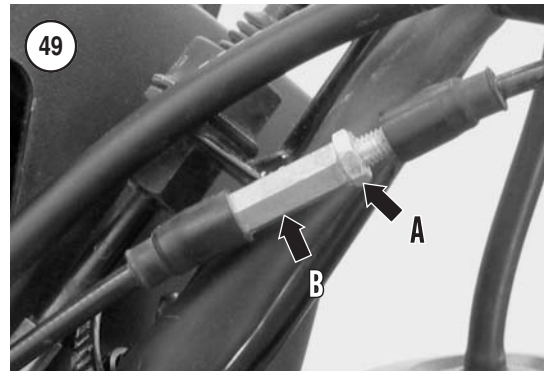
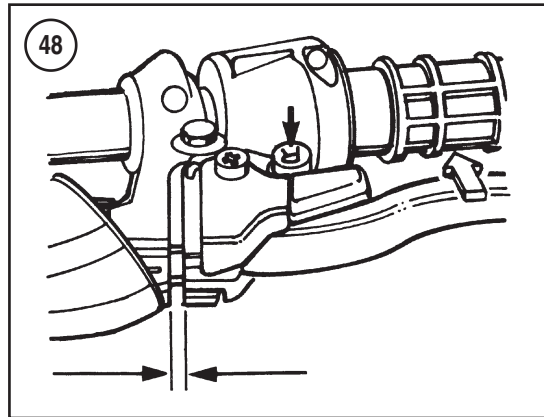
To avoid burnt hands, do not perform this cleaning operation when the exhaust system is hot. Work in a well-ventilated area (outside the garage or work area) that is free of any fire hazards. Be sure to wear safety glasses or goggles.

1. Remove the bolt (**Figure 50**) from the base of the muffler.
2. Wear heavy gloves, such as welding gloves, and block the muffler opening with several shop cloths (**Figure 51**) that are free of all chemicals.
3. Have an assistant start the engine. Open and close the throttle several times to blow out accumulated carbon in the tail section of the muffler. Continue until carbon stops coming out of the muffler opening.
4. Turn the engine off and let the muffler cool.
5. Install the bolt (**Figure 50**) and tighten it securely.

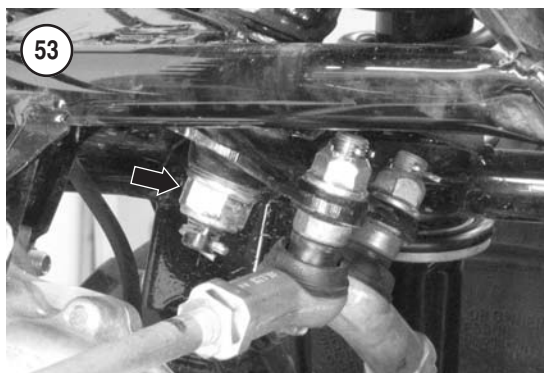
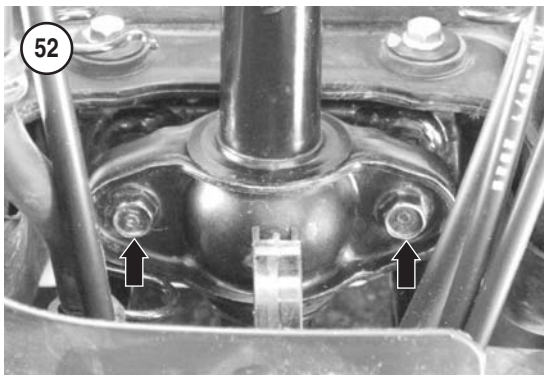
Steering Shaft and Front Suspension Inspection

Inspect the steering system and front suspension at the interval indicated in **Table 1**. If any of the following front suspension and steering fasteners are loose, refer to Chapter Ten for the correct service procedures and tightening torques.

1. Park the ATV on level ground and set the parking brake.
2. Visually inspect all components of the steering system. Repair or replace damaged components as described in Chapter Ten.



3. Check the shock absorbers as described in this section.
4. Remove the combination meter cover or handlebar cover, as equipped, (Chapter Fifteen). Make sure the handlebar holder bolts are tight. Reinstall the combination meter cover or handlebar cover.
5. Make sure the front axle nuts are tight and all cotter pins are in place.
6. Make sure the cotter pins are in place on all steering components. If any cotter pin is missing,



check the nut for looseness. Torque the nut and install a new cotter pin as described in Chapter Ten.

7. Check the steering shaft play as follows:

- a. Support the ATV with the front wheels off the ground.
- b. To check steering shaft radial play, move the handlebar from side to side (without attempting to move the wheels). If radial play is excessive, the upper steering bushing is probably worn or the bushing holder mounting bolts (**Figure 52**) are loose. Replace the upper bushing or tighten the bushing holder bolts as necessary.
- c. To check steering shaft thrust play, lift up and then push down on the handlebar. If there is excessive thrust play, check the lower steering shaft nut (**Figure 53**) for looseness. If the nut is tightened properly, check the lower steering shaft bearing for excessive wear or damage.
- d. If necessary, service the steering shaft as described in Chapter Ten.
- e. Lower the ATV so all four tires are on the ground.

8. Check the steering knuckle and tie rod ends as follows:

- a. Turn the handlebar quickly from side to side. If there is appreciable looseness between the handlebar and tires, check the tie rod ends for excessive wear or damage.
- b. Service the steering knuckle and tie rods as described in Chapter Ten.

NOTE

If any cotter pins were removed in this section, install new cotter pins during reassembly.

Shock Absorber Inspection

1. Check the front and rear shock absorbers for oil leaks, a bent damper rod or other damage.
2. If necessary, replace the shock absorbers as described in Chapter Ten (front) or Chapter Twelve (rear).

Front Axle Joint Boot Inspection

At the interval specified in **Table 1**, inspect the front axle joint boots (**Figure 54**) for tearing or

other damage. Replace damaged boots as described in Chapter Eleven.

Toe Adjustment

Toe-in is a condition where the front of the tires are closer together than the back (**Figure 55**). If the wheels are toed-out, the front of the tires are farther apart than the rear of the tires. Check the toe-in/out adjustment at the interval specified in **Table 1**, after servicing the front suspension or when replacing the tie rods.

Adjust toe-in/out by changing the length of the tie rods.

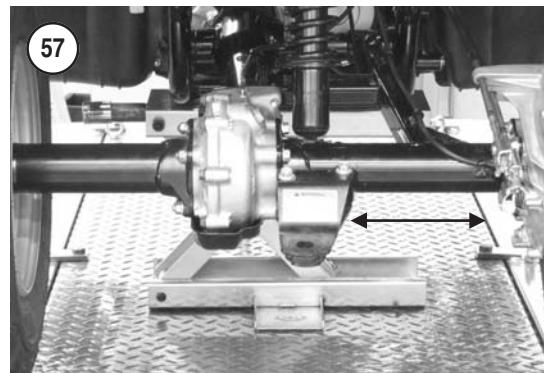
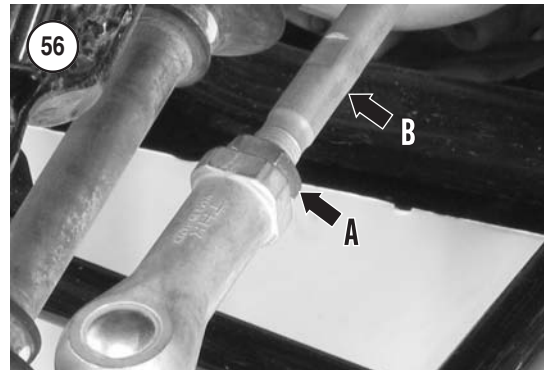
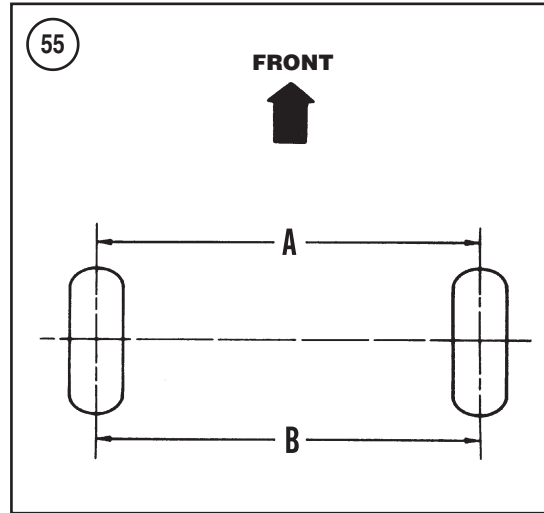
1. Inflate all four tires to the recommended pressure in **Table 2**.
2. Park the ATV on level ground and set the parking brake. Then raise and support the front of the vehicle so both front tires just clear the ground.
3. Turn the handlebar so the wheels are facing straight ahead.
4. Using a tape measure, carefully measure the distance between the center of both front tires as shown in A, **Figure 55**. Mark the tires with a piece of chalk at these points. Record the measurement.
5. Rotate each tire exactly 180° and measure the distance between the center of both front tires at B, **Figure 55**. Record the measurement.
6. Subtract the measurement in Step 4 from Step 5 as shown in **Figure 55**. Refer to the specification in **Table 8**. If the toe-in/out measurement is incorrect, continue with Step 7. If the measurement is correct, go to Step 10.
7. Loosen the locknut (A, **Figure 56**) at each end of both tie rods.
8. Use a wrench on the flat portion (B, **Figure 56**) of the tie rods and slowly turn both tie rods the same amount until the toe-in measurement is correct.

WARNING

If the tie rods are not adjusted equally, the handlebar will not be centered while traveling straight ahead. This condition may cause loss of control. If necessary, refer adjustment to a Honda dealership or qualified shop.

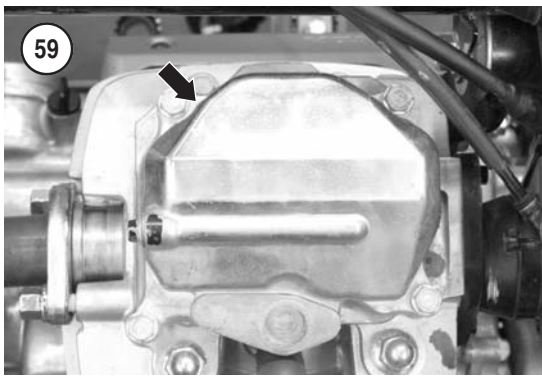
NOTE

Turn both tie rods the same number of turns. This ensures the tie rod length



*will remain the same on each side. To check the lengths of the tie rods, refer to **Tie Rods** in Chapter Ten.*

9. When the toe-in/out adjustment is correct, hold each tie rod in place and tighten the locknuts to 54 N•m (40 ft.-lb.).



10. Lower the ATV so both front wheels are on the ground.
11. Start the engine and test ride it slowly on level ground. Steer straight ahead and make sure the handlebar does not turn toward the left- or right-side.

Rear Suspension Check

1. Support the ATV so the rear wheels are off the ground.
2. Try to move the rear axle (**Figure 57**) sideways while checking for excessive play at the swing arm bearings.
3. If there is any play, check the swing arm pivot bolts for looseness (Chapter Twelve). If they are tightened properly, the swing arm bearings may require replacement. See Chapter Twelve.
4. Lower the ATV so all four tires are on the ground.

Skid Plates

Check the front, middle and rear skid plates for damage and loose mounting bolts. Repair or replace

damaged skid plates. Replace missing or damaged mounting bolts. Tighten the mounting bolts securely.

Fasteners

Constant vibration can loosen many of the fasteners on the ATV. Check the tightness of all fasteners, especially those on:

1. Engine mounting hardware.
2. Cylinder head bracket bolts.
3. Engine crankcase covers.
4. Handlebar.
5. Gearshift lever.
6. Brake pedal and lever.
7. Exhaust system.
8. Steering and suspension components.

ENGINE TUNE-UP

A tune-up is general adjustment and maintenance to ensure peak engine performance.

The following section discuss each phase of a proper tune-up which should be performed in the order given. Unless otherwise specified, the engine should be thoroughly cool before any tune-up procedure is started.

Have the new parts on hand before beginning.

Camshaft Chain Adjustment

The engine is equipped with an automatic camshaft chain tensioner. No adjustment is required.

Valve Clearance Check and Adjustment

Check and adjust the valve clearance while the engine is cold (below 35° C [95° F]).

1. Park the ATV on level ground and set the parking brake.
2. Remove the recoil starter cover (**Figure 58**).
3. Remove the fuel tank and the engine heat guard (Chapter Eight).
4. Remove the bolts and the cylinder head cover (**Figure 59**) and gasket.
5. Remove the O-ring (**Figure 60**).
6. Remove the spark plug. This will make it easier to turn the engine with the recoil starter and align the timing marks.

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